<i>(eceived by OCD</i> . 5/50/2025	14.13.74 1 11			1 uge 1 0j		
Form 3160-5 (June 2019)	UNITED STATES DEPARTMENT OF THE INTERIOR		ON Expir	DRM APPROVED MB No. 1004-0137 res: October 31, 2021		
В	JREAU OF LAND MANAGEMENT		5. Lease Serial No. NN	/NM110835		
	Y NOTICES AND REPORTS ON V	-	6. If Indian, Allottee or	Tribe Name		
	is form for proposals to drill or ta II. Use Form 3160-3 (APD) for su					
	IN TRIPLICATE - Other instructions on page	• •	7. If Unit of CA/Agreement, Name and/or No.			
1. Type of Well		-				
	as Well Other			RUTHLESS 11 FED COM/743H		
2. Name of Operator EOG RESO	URCES INCORPORATED		9. API Well No. 30-	025-51174		
3a. Address 1111 BAGBY SKY I	OBBY 2, HOUSTON, TX 770 3b. Phone No.		10. Field and Pool or E	xploratory Area 309P/UPPER WOLFCAMP		
4. Location of Well (Footage, Sec.,	· · · ·		11. Country or Parish, S			
SEC 11/T25S/R32E/NMP			LEA/NM			
12. 0	CHECK THE APPROPRIATE BOX(ES) TO IN	DICATE NATURE OF NOT	ICE, REPORT OR OTHI	ER DATA		
TYPE OF SUBMISSION		TYPE OF AC	TION			
✓ Notice of Intent	Acidize Deep		luction (Start/Resume)	Water Shut-Off		
			amation	Well Integrity		
Subsequent Report			omplete	✓ Other		
Final Abandonment Notice			porarily Abandon er Disposal			
is ready for final inspection.) Ruthless 11 Fed Com 729 EOG respectfully requests the following changes: Change name from Ruthle Change BHL from T-25-S, to T-25-S, R-32-E, Sec 14 Change target formation to	program to current design.	is well to reflect	e been completed and th	e operator has detennined that the site		
	g is true and correct. Name (Printed/Typed)					
CRAIG RICHARDSON / Ph: (4		Regulatory Special	st			
Signature		Date	03/09/20	23		
	THE SPACE FOR FED	ERAL OR STATE OF	ICE USE			
Approved by						
KEITH P IMMATTY / Ph: (575)	988-4722 / Approved	Title	D	03/28/2023 ate		
	ttached. Approval of this notice does not warran or equitable title to those rights in the subject lo conduct operations thereon.					

Title 18 U.S.C Section 1001 and Title 43 U.S.C Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

(Instructions on page 2)

.

This form is designed for submitting proposals to perform certain well operations and reports of such operations when completed as indicated on Federal and Indian lands pursuant to applicable Federal law and regulations. Any necessary special instructions concerning the use of this form and the number of copies to be submitted, particularly with regard to local area or regional procedures and practices, are

SPECIFIC INSTRUCTIONS

Item 4 - Locations on Federal or Indian land should be described in accordance with Federal requirements. Consult the local Federal office for specific instructions.

Item 13: Proposals to abandon a well and subsequent reports of abandonment should include such special information as is required by the local Federal office. In addition, such proposals and reports should include reasons for the abandonment; data on any former or present productive zones or other zones with present significant fluid contents not sealed off by cement or otherwise; depths (top and bottom) and method of placement of cement plugs; mud or other material placed below, between and above plugs; amount, size, method of parting of any casing, liner or tubing pulled and the depth to the top of any tubing left in the hole; method of closing top of well and date well site conditioned for final inspection looking for approval of the abandonment. If the proposal will involve **hydraulic fracturing operations**, you must comply with 43 CFR 3162.3-3, including providing information about the protection of usable water. Operators should provide the best available information about all formations containing water and their depths. This information could include data and interpretation of resistivity logs run on nearby wells. Information may also be obtained from state or tribal regulatory agencies and from local BLM offices.

NOTICES

The privacy Act of 1974 and the regulation in 43 CFR 2.48(d) provide that you be furnished the following information in connection with information required by this application.

AUTHORITY: 30 U.S.C. 181 et seq., 351 et seq., 25 U.S.C. 396; 43 CFR 3160.

either shown below, will be issued by or may be obtained from the local Federal office.

PRINCIPAL PURPOSE: The information is used to: (1) Evaluate, when appropriate, approve applications, and report completion of subsequent well operations, on a Federal or Indian lease; and (2) document for administrative use, information for the management, disposal and use of National Resource lands and resources, such as: (a) evaluating the equipment and procedures to be used during a proposed subsequent well operation and reviewing the completed well operations for compliance with the approved plan; (b) requesting and granting approval to perform those actions covered by 43 CFR 3162.3-2, 3162.3-3, and 3162.3-4; (c) reporting the beginning or resumption of production, as required by 43 CFR 3162.4-1(c)and (d) analyzing future applications to drill or modify operations in light of data obtained and methods used.

ROUTINE USES: Information from the record and/or the record will be transferred to appropriate Federal, State, local or foreign agencies, when relevant to civil, criminal or regulatory investigations or prosecutions in connection with congressional inquiries or to consumer reporting agencies to facilitate collection of debts owed the Government.

EFFECT OF NOT PROVIDING THE INFORMATION: Filing of this notice and report and disclosure of the information is mandatory for those subsequent well operations specified in 43 CFR 3162.3-2, 3162.3-3, 3162.3-4.

The Paperwork Reduction Act of 1995 requires us to inform you that:

The BLM collects this information to evaluate proposed and/or completed subsequent well operations on Federal or Indian oil and gas leases.

Response to this request is mandatory.

The BLM would like you to know that you do not have to respond to this or any other Federal agency-sponsored information collection unless it displays a currently valid OMB control number.

BURDEN HOURS STATEMENT: Public reporting burden for this form is estimated to average 8 hours per response, including the time for reviewing instructions, gathering and maintaining data, and completing and reviewing the form. Direct comments regarding the burden estimate or any other aspect of this form to U.S. Department of the Interior, Bureau of Land Management (1004-0137), Bureau Information Collection Clearance Officer (WO-630), 1849 C St., N.W., Mail Stop 401 LS, Washington, D.C. 20240

Additional Information

Additional Remarks

Update HSU to 640 acres.

Location of Well

0. SHL: TR D / 660 FNL / 567 FWL / TWSP: 25S / RANGE: 32E / SECTION: 11 / LAT: 32.1504684 / LONG: -103.6524002 (TVD: 0 feet, MD: 0 feet) PPP: TR K / 2644 FNL / 1440 FWL / TWSP: 25S / RANGE: 32E / SECTION: 14 / LAT: 32.1305151 / LONG: -103.6496609 (TVD: 12771 feet, MD: 20533 feet) PPP: TR K / 2638 FNL / 1440 FWL / TWSP: 25S / RANGE: 32E / SECTION: 11 / LAT: 32.1450345 / LONG: -103.6496056 (TVD: 12771 feet, MD: 15251 feet) PPP: TR C / 100 FNL / 1440 FWL / TWSP: 25S / RANGE: 32E / SECTION: 11 / LAT: 32.1520144 / LONG: -103.6496789 (TVD: 12771 feet, MD: 12609 feet) BHL: TR N / 100 FSL / 1440 FWL / TWSP: 25S / RANGE: 32E / SECTION: 14 / LAT: 32.1235216 / LONG: -103.6496876 (TVD: 12771 feet, MD: 23077 feet)

District I 1625 N. French Dr., Hobbs, NM 88240 Phone: (575) 393-6161 Fax: (575) 393-0720 District II 811 S. First St., Artesia, NM 88210 Phone: (575) 748-1283 Fax: (575) 748-9720 Phone, (272) <u>District III</u> 1000 Rio Brazos Road, Aztec, NM 87410 Phone: (505) 334-6178 Fax: (505) 334-6170 District IV 1220 S. St. Francis Dr., Santa Fe, NM 87505 Phone: (505) 476-3460 Fax: (505) 476-3462

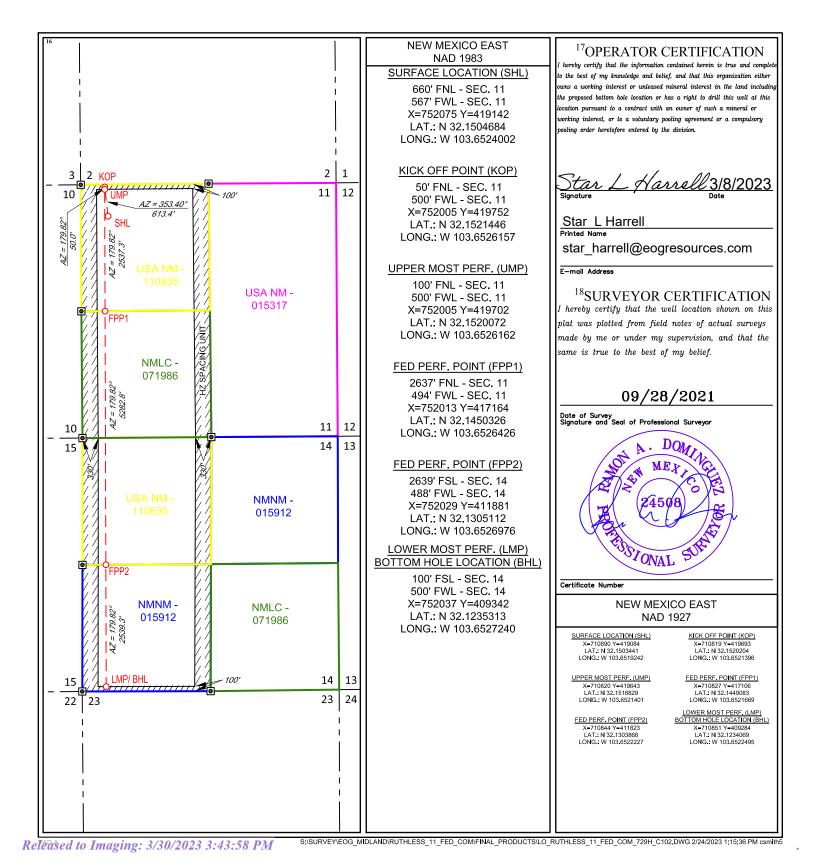
State of New Mexico Energy, Minerals & Natural Resources Department OIL CONSERVATION DIVISION 1220 South St. Francis Dr. Santa Fe, NM 87505

Revised August 1, 2011 Submit one copy to appropriate **District Office**

AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT ¹API Number ²Pool Cod ³Pool Name 98180 WC-025 G-09 S253309P; Upper Wolfcamp 30-025-51174 ⁴Property Code Property Name Well Number 329701 **RUTHLESS 11 FED COM** 729H OGRID No. ⁸Operator Nam ⁹Elevation 7377 EOG RESOURCES, INC. 3488 ¹⁰Surface Location East/West li UL or lot no Rang Lot Id Feet from the Feet from th Section Townshir North/South 1 Count 32 660' D 25 NORTH 567' WEST LEA 11 ¹¹Bottom Hole Location If Different From Surface East/West li Feet from th Count North/South li UL or lot no. Sectio Township Rang Lot Idi Feet from the 100' 500' 25 32 SOUTH WEST LEA M 14 ²Dedicated Acres ³Joint or Infill Consolidation Code ⁵Order No. 640

No allowable will be assigned to this completion until all interests have been consolidated or a non-standard unit has been approved by the division.



Page 4 of 31

FORM C-102

Seog resources

Ruthless 11 Fed Com 729H

Revised Permit Information 02/02/2023:

Well Name: Ruthless 11 Fed Com 729H

Location: SHL: 660' FNL & 567' FWL, Section 11, T-25-S, R-32-E, Lea Co., N.M. BHL: 100' FSL & 500' FWL, Section 14, T-25-S, R-32-E, Lea Co., N.M.

Casing Program:

Hole	Interval MD		Interval TVD		Csg			
Size	From (ft)	To (ft)	From (ft)	To (ft)	OD	Weight	Grade	Conn
12-1/4"	0	940	0	940	9-5/8"	36#	J-55	LTC
8-3/4"	0	11,132	0	11,100	7-5/8"	29.7#	HCP-110	FXL
6-3/4"	0	10,632	0	10,600	5-1/2"	20#	P110-EC	DWC/C IS MS
6-3/4"	10,632	11,132	10,600	11,100	5-1/2"	20#	P110-EC	Vam Sprint SF
6-3/4"	11,132	22,746	11,100	12,510	5-1/2"	20#	P110-EC	DWC/C IS MS

Variance is requested to waive the centralizer requirements for the 7-5/8" casing in the 8-3/4" hole size. An expansion additive will be utilized, in the cement slurry, for the entire length of the 8-3/4 hole interval to maximize cement bond and zonal isolation.

Variance is also requested to waive any centralizer requirements for the 5-1/2" casing in the 6-3/4" hole size. An expansion additive will be utilized, in the cement slurry, for the entire length of the 6-3/4" hole interval to maximize cement bond and zonal isolation.

Variance is also requested to waive the annular clearance requirements for the 5-1/2" casing by 7-5/8" casing annulus to the proposed top of cement.

EOG requests permission to allow deviation from the 0.422" annulus clearance requirement from Onshore Order #2 under the following conditions:

- Annular clearance to meet or exceed 0.422" between intermediate casing ID and production casing coupling only on the first 500' overlap between both casing strings.
- Annular clearance less than 0.422" is acceptable for the production open hole section.

		Wt.	Yld	Slurry Description
Depth	No. Sacks	ppg	Ft3/sk	
940' 9-5/8''	270	13.5	1.73	Lead: Class C + 4.0% Bentonite Gel + 0.5% CaCl2 + 0.25 lb/sk Cello- Flake (TOC @ Surface)
	80	14.8	1.34	Tail: Class C + 0.6% FL-62 + 0.25 lb/sk Cello-Flake + 0.2% Sodium Metasilicate (TOC @ 740')
11,100' 7-5/8''	480	14.2	1.11	1st Stage (Tail): Class C + 0.6% Halad-9 + 0.45% HR-601 + 3% Microbond (TOC @ 7,050')
	1210	14.8	1.5	2nd Stage (Bradenhead squeeze): Class C + 3% Salt + 1% PreMag- M + 6% Bentonite Gel (TOC @ surface)
22,746' _{5-1/2''}	1030	13.2	1.31	Lead: Class H + 0.4% Halad-344 + 0.35% HR-601 + 3% Microbond (TOC @ 10,600')

Cementing Program:

Additive	Purpose			
Bentonite Gel	Lightweight/Lost circulation prevention			
Calcium Chloride	Accelerator			
Cello-flake	Lost circulation prevention			
Sodium Metasilicate	Accelerator			
MagOx	Expansive agent			
Pre-Mag-M	Expansive agent			
Sodium Chloride	Accelerator			
FL-62	Fluid loss control			
Halad-344	Fluid loss control			
Halad-9	Fluid loss control			
HR-601	Retarder			
Microbond	Expansive Agent			

EOG requests variance from minimum standards to pump a two stage cement job on the 7-5/8" intermediate casing string with the first stage being pumped conventionally with the calculated top of cement at the Brushy Canyon (7,254') and the second stage performed as a 1000 sack bradenhead squeeze with planned cement from the Brushy Canyon to surface. If necessary, a top out consisting of 210 sacks of Class C cement + 3% Salt + 1% PreMag-M + 6% Bentonite Gel (2.30 yld, 12.91 ppg) will be executed as a contingency. Top will be verified by Echo-meter.

EOG will include the Echo-meter verified fluid top and the volume of displacement fluid above the cement slurry in the annulus in all post-drill sundries on wells utilizing this cement program.

EOG will report to the BLM the volume of fluid (limited to 5 bbls) used to flush intermediate casing valves following backside cementing procedures.

Measured Depth	Туре	Weight (ppg)	Viscosity	Water Loss	
0 - 940'	Fresh - Gel	8.6-8.8	28-34	N/c	
940' - 11,100'	Brine	10.0-10.2	28-34	N/c	
11,100' - 12,064'	Oil Base	8.7-9.4	58-68	N/c - 6	
12,064' – 22,746' Lateral	Oil Base	10.0-14.0	58-68	4 - 6	

Mud l	Program:
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Wellhead & Offline Cementing:

EOG Resources Inc. (EOG) respectfully requests a variance from the minimum standards for well control equipment testing of Onshore Order No. 2 (item III.A.2.a.i) to allow a testing schedule of the blow out preventer (BOP) and blow out prevention equipment (BOPE) along with Batch Drilling & Offline cement operations to include the following:

- Full BOPE test at first installation on the pad.
- Full BOPE test every 21 days per Onshore Order No. 2.
- Function test BOP elements per Onshore Order No. 2.
- Break testing BOP and BOPE coupled with batch drilling operations and option to offline cement and/or remediate (if needed) any surface or intermediate sections, according to attached offline cementing support documentation.
- After the well section is secured, the BOP will be disconnected from the wellhead and walked with the rig to another well on the pad.
- TA cap will also be installed per Wellhead vendor procedure and pressure inside the casing will be monitored via the valve on the TA cap as per standard batch drilling ops.
- See attached "EOG BLM Variance 3a -Offline Cement Intermediate Operational Procedure"

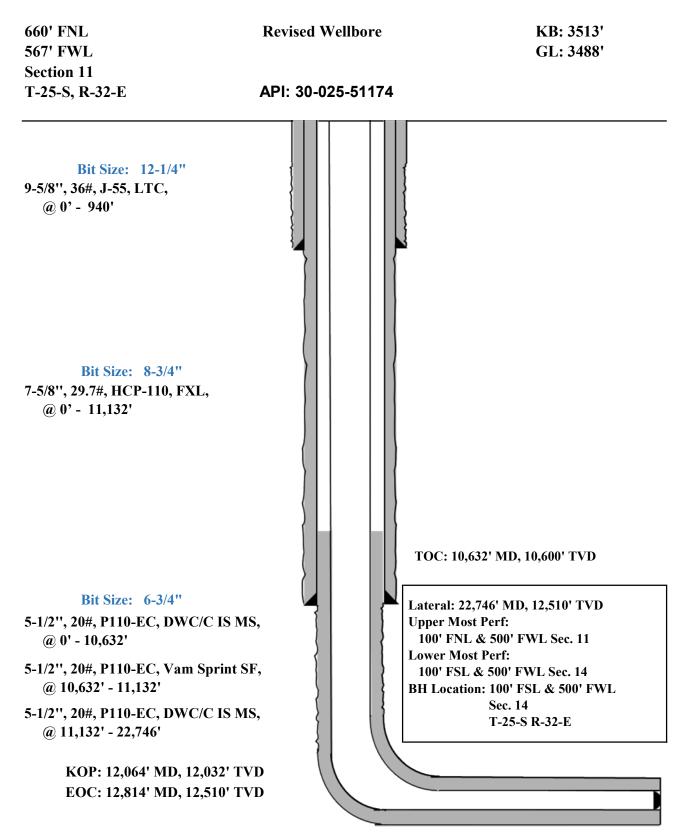


TUBING REQUIREMENTS

EOG respectively requests an exception to the following NMOCD rule:

 19.15.16.10 Casing AND TUBING RQUIREMENTS: J (3): "The operator shall set tubing as near the bottom as practical and tubing perforations shall not be more than 250 feet above top of pay zone."

With horizontal flowing and gas lifted wells an end of tubing depth placed at or slightly above KOP is a conservative way to ensure the tubing stays clean from debris, plugging, and allows for fewer well interventions post offset completion. The deeper the tubulars are run into the curve, the higher the probability is that the tubing will become stuck in sand and or well debris as the well produces over time. An additional consideration for EOT placement during artificial lift installations is avoiding the high dog leg severity and inclinations found in the curve section of the wellbore to help improve reliability and performance. Dog leg severity and inclinations tend not to hamper gas lifted or flowing wells, but they do effect other forms of artificial lift like rod pump or ESP (electric submersible pump). Keeping the EOT above KOP is an industry best practice for those respective forms of artificial lift.





Design B 4. CASING PROGRAM

Hole	Interval MD		Interval MD Interval TVD		Csg			
Size	From (ft)	To (ft)	From (ft)	To (ft)	OD	Weight	Grade	Conn
13"	0	940	0	940	10-3/4"	40.5#	J-55	STC
9-7/8"	0	11,132	0	11,100	8-3/4"	38.5#	P110-EC	SLIJ II NA
7-7/8"	0	22,746	0	12,510	6"	22.3#	P110-EC	DWC/C IS

Variance is requested to waive the centralizer requirements for the 8-3/4" casing in the 9-7/8" hole size. An expansion additive will be utilized, in the cement slurry, for the entire length of the 9-7/8" hole interval to maximize cement bond and zonal isolation.

Variance is also requested to waive any centralizer requirements for the 6" casing in the 7-7/8" hole size. An expansion additive will be utilized, in the cement slurry, for the entire length of the 7-7/8" hole interval to maximize cement bond and zonal isolation.

Variance is also requested to waive the annular clearance requirements for the 6" casing by 8-3/4" casing annulus to the proposed top of cement.

EOG requests permission to allow deviation from the 0.422" annulus clearance requirement from Onshore Order #2 under the following conditions:

- Annular clearance to meet or exceed 0.422" between intermediate casing ID and production casing coupling only on the first 500' overlap between both casing strings.
- Annular clearance less than 0.422" is acceptable for the production open hole section.

		13.5 1.73 14.8 1.34		Slurry Description			
Depth	No. Sacks	ppg	Ft3/sk				
940'	250	13.5	1.73	Lead: Class C + 4.0% Bentonite Gel + 0.5% CaCl2 + 0.25 lb/sk Cello-Flake (TOC @ Surface)			
10-3/4"							
	70	14.8	1.34	Tail: Class C + 0.6% FL-62 + 0.25 lb/sk Cello-Flake + 0.2% Sodium Metasilicate (TOC @ 740')			
11,100' 8-3/4"	540	14.2	1.11	1st Stage (Tail): Class C + 0.6% Halad-9 + 0.45% HR-601 + 3% Microbond (TOC @ 7,050')			
	1370	14.8	1.5	2nd Stage (Bradenhead squeeze): Class C + 3% Salt + 1% PreMag- M + 6% Bentonite Gel (TOC @ surface)			
22,746' _{6"}	1690	13.2	1.31	Lead: Class H + 0.4% Halad-344 + 0.35% HR-601 + 3% Microbond (TOC @ 10,600')			

<u>Cementing Program</u>:



EOG requests variance from minimum standards to pump a two stage cement job on the 8-3/4" intermediate casing string with the first stage being pumped conventionally with the calculated top of cement at the Brushy Canyon (7,254') and the second stage performed as a 1000 sack bradenhead squeeze with planned cement from the Brushy Canyon to surface. If necessary, a top out consisting of 368 sacks of Class C cement + 3% Salt + 1% PreMag-M + 6% Bentonite Gel (2.30 yld, 12.91 ppg) will be executed as a contingency. Top will be verified by Echo-meter.

EOG will include the Echo-meter verified fluid top and the volume of displacement fluid above the cement slurry in the annulus in all post-drill sundries on wells utilizing this cement program.

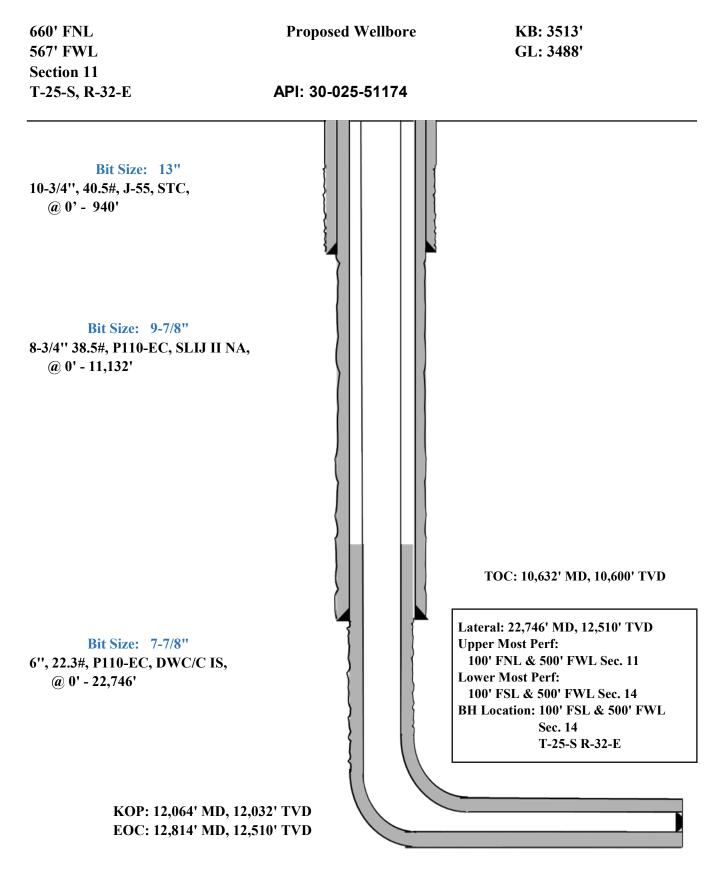
EOG will report to the BLM the volume of fluid (limited to 5 bbls) used to flush intermediate casing valves following backside cementing procedures.

Wellhead & Offline Cementing:

EOG Resources Inc. (EOG) respectfully requests a variance from the minimum standards for well control equipment testing of Onshore Order No. 2 (item III.A.2.a.i) to allow a testing schedule of the blow out preventer (BOP) and blow out prevention equipment (BOPE) along with Batch Drilling & Offline cement operations to include the following:

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- Break testing BOP and BOPE coupled with batch drilling operations and option to offline cement and/or remediate (if needed) any surface or intermediate sections, according to attached offline cementing support documentation.
- After the well section is secured, the BOP will be disconnected from the wellhead and walked with the rig to another well on the pad.
- TA cap will also be installed per Wellhead vendor procedure and pressure inside the casing will be monitored via the valve on the TA cap as per standard batch drilling ops.
- See attached "EOG BLM Variance 3a -Offline Cement Intermediate Operational Procedure"







Midland

Lea County, NM (NAD 83 NME) Ruthless 11 Fed Com #729H

OH

Plan: Plan #0.2

Standard Planning Report

07 March, 2023



Planning Report

Database: Company: Project: Site: Well: Wellbore:	PEDM Midland Lea County, NM (NAD 83 NME) Ruthless 11 Fed Com #729H OH Plan #0.2			Local Co-ordin TVD Referenc MD Reference North Referen Survey Calcul	: ce:	Well #729H kb = 26' @ 351 kb = 26' @ 351 Grid Minimum Curva	14.0usft	
Design:	Plan #0.2							
Project	Lea County, I	NM (NAD 83 NM	1E)					
Geo Datum:	US State Plan North America New Mexico E	n Datum 1983		System Datum:		Mean Sea Level		
Site	Ruthless 11 F	ed Com						
Site Position: From: Position Uncertainty:	Мар	0.0 usft	Northing: Easting: Slot Radius:	419,142. 752,042. 13-3/	00 usft Longitu			32° 9' 1.687 N 103° 39' 9.029 W
Well	#729H							
Well Position	+N/-S +E/-W	0.0 usft 0.0 usft	Northing: Easting:	7	19,142.00 usft 52,075.00 usft	Latitude: Longitude:		32° 9' 1.684 N 103° 39' 8.645 W
Position Uncertainty Grid Convergence:		0.0 usft 0.36 °	Wellhead Ele	vation:	usft	Ground Level:		3,488.0 usf
Wellbore	ОН							
Magnetics	Model Na	ame	Sample Date	Declination (°)		Dip Angle (°)	Field Streng (nT)	gth
	IG	RF2020	3/2/2022		6.49	59.80	47,367.64	4002081
Design	Plan #0.2							
Audit Notes: Version:			Phase:	PLAN	Tie On Dep	th:	0.0	
Vertical Section:		(L	rom (TVD) Isft)	+N/-S (usft)	+E/-W (usft)		(°)	
		().0	0.0	0.0	1	180.22	
Plan Survey Tool Pro	gram	Date 3/7/20)23					
Depth From (usft)	Depth To (usft)	Survey (Wellb	ore)	Tool Name	Rema	rks		
1 0.0	22,746.1	Plan #0.2 (OH)		EOG MWD+IFR1 MWD + IFR1				

Plan #0.2



Planning Report

Plan Sections

Design:

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,000.0	0.00	0.00	1,000.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,294.1	5.88	353.45	1,293.6	15.0	-1.7	2.00	2.00	0.00	353.45	
6,990.9	5.88	353.45	6,960.4	595.0	-68.3	0.00	0.00	0.00	0.00	
7,285.0	0.00	0.00	7,254.0	610.0	-70.0	2.00	-2.00	0.00	180.00	
12,063.5	0.00	0.00	12,032.5	610.0	-70.0	0.00	0.00	0.00	0.00	KOP(Ruthless 11 F
12,284.0	26.46	180.00	12,245.2	560.0	-70.0	12.00	12.00	81.65	180.00	FTP(Ruthless 11 F
12,813.5	90.00	179.81	12,509.9	132.6	-69.0	12.00	12.00	-0.04	-0.21	
14,924.1	90.00	179.81	12,510.0	-1,978.0	-62.0	0.00	0.00	0.00	0.00	Fed Perf 1(Ruthles
20,207.1	90.00	179.84	12,510.0	-7,261.0	-46.0	0.00	0.00	0.00	84.74	Fed Perf 2(Ruthles
22,746.1	90.00	179.80	12,510.0	-9,800.0	-38.0	0.00	0.00	0.00	-93.73	PBHL(Ruthless 11

	DEDM		M. J. //70011
Database:	PEDM	Local Co-ordinate Reference:	Well #729H
Company:	Midland	TVD Reference:	kb = 26' @ 3514.0usft
Project:	Lea County, NM (NAD 83 NME)	MD Reference:	kb = 26' @ 3514.0usft
Site:	Ruthless 11 Fed Com	North Reference:	Grid
Well:	#729H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #0.2		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
100.0	0.00	0.00	100.0	0.0	0.0	0.0	0.00	0.00	0.00
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00	0.00	0.00
300.0	0.00	0.00	300.0	0.0	0.0	0.0	0.00	0.00	0.00
400.0	0.00	0.00	400.0	0.0	0.0	0.0	0.00	0.00	0.00
500.0	0.00	0.00	500.0	0.0	0.0	0.0	0.00	0.00	0.00
600.0	0.00	0.00	600.0	0.0	0.0	0.0	0.00	0.00	0.00
700.0	0.00	0.00	700.0	0.0	0.0	0.0	0.00	0.00	0.00
800.0	0.00	0.00	800.0	0.0	0.0	0.0	0.00	0.00	0.00
900.0	0.00	0.00	900.0	0.0	0.0	0.0	0.00	0.00	0.00
1,000.0	0.00	0.00	1,000.0	0.0	0.0	0.0	0.00	0.00	0.00
1,100.0	2.00	353.45	1,100.0	1.7	-0.2	-1.7	2.00	2.00	0.00
1,200.0	4.00	353.45	1,199.8	6.9	-0.8	-6.9	2.00	2.00	0.00
1,294.1	5.88	353.45	1,293.6	15.0	-1.7	-15.0	2.00	2.00	0.00
1,300.0	5.88	353.45	1,299.5	15.6	-1.8	-15.6	0.00	0.00	0.00
1,400.0	5.88	353.45	1,398.9	25.8	-3.0	-25.8	0.00	0.00	0.00
1,500.0	5.88	353.45	1,498.4	35.9	-3.0 -4.1	-25.8	0.00	0.00	0.00
	5.88	353.45 353.45					0.00	0.00	
1,600.0			1,597.9	46.1	-5.3	-46.1			0.00
1,700.0	5.88	353.45	1,697.3	56.3	-6.5	-56.3	0.00	0.00	0.00
1,800.0	5.88	353.45	1,796.8	66.5	-7.6	-66.5	0.00	0.00	0.00
1,900.0	5.88	353.45	1,896.3	76.7	-8.8	-76.6	0.00	0.00	0.00
2,000.0	5.88	353.45	1,995.8	86.9	-10.0	-86.8	0.00	0.00	0.00
2,100.0	5.88	353.45	2,095.2	97.0	-11.1	-97.0	0.00	0.00	0.00
2,200.0	5.88	353.45	2,194.7	107.2	-12.3	-107.2	0.00	0.00	0.00
2,300.0	5.88	353.45	2,294.2	117.4	-13.5	-117.3	0.00	0.00	0.00
2,400.0	5.88	353.45	2,393.7	127.6	-14.6	-127.5	0.00	0.00	0.00
2,500.0	5.88	353.45	2,493.1	137.8	-15.8	-137.7	0.00	0.00	0.00
2,600.0	5.88	353.45	2,592.6	147.9	-17.0	-147.9	0.00	0.00	0.00
2,700.0	5.88	353.45	2,692.1	158.1	-18.1	-158.1	0.00	0.00	0.00
2,800.0	5.88	353.45	2,791.6	168.3	-19.3	-168.2	0.00	0.00	0.00
2,900.0	5.88	353.45	2,891.0	178.5	-20.5	-178.4	0.00	0.00	0.00
3,000.0	5.88	353.45	2,990.5	188.7	-21.7	-188.6	0.00	0.00	0.00
3,100.0	5.88	353.45	3,090.0	198.9	-22.8	-198.8	0.00	0.00	0.00
3,200.0	5.88	353.45	3,189.4	209.0	-24.0	-208.9	0.00	0.00	0.00
3,300.0	5.88	353.45	3,288.9	219.2	-25.2	-219.1	0.00	0.00	0.00
3,400.0	5.88	353.45	3,388.4	229.4	-26.3	-229.3	0.00	0.00	0.00
3,500.0	5.88	353.45	3,487.9	239.6	-27.5	-239.5	0.00	0.00	0.00
3,600.0	5.88	353.45	3,587.3	249.8	-28.7	-249.7	0.00	0.00	0.00
3,700.0	5.88	353.45	3,686.8	259.9	-29.8	-259.8	0.00	0.00	0.00
3,800.0	5.88	353.45	3,786.3	270.1	-31.0	-270.0	0.00	0.00	0.00
3,900.0	5.88	353.45	3,885.8	280.3	-32.2	-280.2	0.00	0.00	0.00
4,000.0	5.88	353.45	3,985.2	290.5	-33.3	-200.2	0.00	0.00	0.00
4,000.0	5.88	353.45	4,084.7	300.7	-34.5	-290.4	0.00	0.00	0.00
4,100.0	5.88	353.45	4,084.7	310.9	-34.5	-300.5	0.00	0.00	0.00
4,200.0	5.88	353.45	4,184.2	321.0	-36.8	-320.9	0.00	0.00	0.00
4,400.0	5.88	353.45	4,383.1	331.2	-38.0	-331.1	0.00	0.00	0.00
4,500.0	5.88	353.45	4,482.6	341.4	-39.2	-341.2	0.00	0.00	0.00
4,600.0	5.88	353.45	4,582.1	351.6	-40.3	-351.4	0.00	0.00	0.00
4,700.0	5.88	353.45	4,681.6	361.8	-41.5	-361.6	0.00	0.00	0.00
4,800.0	5.88	353.45	4,781.0	371.9	-42.7	-371.8	0.00	0.00	0.00
4,900.0	5.88	353.45	4,880.5	382.1	-43.9	-382.0	0.00	0.00	0.00
5,000.0	5.88	353.45	4,980.0	392.3	-45.0	-392.1	0.00	0.00	0.00
5,100.0	5.88	353.45	5,079.4	402.5	-46.2	-402.3	0.00	0.00	0.00
5,200.0	5.88	353.45	5,178.9	412.7	-47.4	-412.5	0.00	0.00	0.00

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Planning Report

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
5,300.0	5.88	353.45	5,278.4	422.9	-48.5	-422.7	0.00	0.00	0.00
5,400.0	5.88	353.45	5,377.9	433.0	-49.7	-432.8	0.00	0.00	0.00
5,500.0	5.88	353.45	5,477.3	443.2	-50.9	-443.0	0.00	0.00	0.00
5,600.0	5.88	353.45	5,576.8	453.4	-52.0	-453.2	0.00	0.00	0.00
5,700.0	5.88	353.45	5,676.3	463.6	-53.2	-463.4	0.00	0.00	0.00
5,800.0	5.88	353.45	5,775.8	473.8	-54.4	-473.5	0.00	0.00	0.00
5,900.0	5.88	353.45	5,875.2	483.9	-55.5	-483.7	0.00	0.00	0.00
6,000.0	5.88	353.45	5,974.7	494.1	-56.7	-493.9	0.00	0.00	0.00
6,100.0	5.88	353.45	6,074.2	504.3	-57.9	-504.1	0.00	0.00	0.00
6,200.0	5.88	353.45	6,173.7	514.5	-59.0	-514.3	0.00	0.00	0.00
6,300.0	5.88	353.45	6,273.1	524.7	-60.2	-524.4	0.00	0.00	0.00
6,400.0	5.88	353.45	6,372.6	534.8	-61.4	-534.6	0.00	0.00	0.00
6,500.0	5.88	353.45	6,472.1	545.0	-62.5	-544.8	0.00	0.00	0.00
6,600.0	5.88	353.45	6,571.5	555.2	-63.7	-555.0	0.00	0.00	0.00
6,700.0	5.88	353.45	6,671.0	565.4	-64.9	-565.1	0.00	0.00	0.00
6,800.0	5.88	353.45	6,770.5	575.6	-66.0	-575.3	0.00	0.00	0.00
6,900.0	5.88	353.45	6,870.0	585.8	-67.2	-585.5	0.00	0.00	0.00
6,990.9	5.88	353.45	6,960.4	595.0	-68.3	-594.7	0.00	0.00	0.00
7,000.0	5.70	353.45	6,969.4	595.9	-68.4	-595.7	2.00	-2.00	0.00
7,100.0	3.70	353.45	7,069.1	604.1	-69.3	-603.8	2.00	-2.00	0.00
7,200.0	1.70	353.45	7,169.0	608.7	-69.9	-608.5	2.00	-2.00	0.00
7,285.0	0.00	0.00	7,254.0	610.0	-70.0	-609.7	2.00	-2.00	0.00
7,300.0	0.00	0.00	7,269.0	610.0	-70.0	-609.7	0.00	0.00	0.00
7,400.0	0.00	0.00	7,369.0	610.0	-70.0	-609.7	0.00	0.00	0.00
7,500.0	0.00	0.00	7,469.0	610.0	-70.0	-609.7	0.00	0.00	0.00
7,600.0	0.00	0.00	7,569.0	610.0	-70.0	-609.7	0.00	0.00	0.00
7,700.0	0.00	0.00	7,669.0	610.0	-70.0	-609.7	0.00	0.00	0.00
7,800.0	0.00	0.00	7,769.0	610.0	-70.0	-609.7	0.00	0.00	0.00
7,900.0	0.00	0.00	7,869.0	610.0	-70.0	-609.7	0.00	0.00	0.00
8,000.0 8,100.0	0.00 0.00	0.00 0.00	7,969.0 8,069.0	610.0 610.0	-70.0 -70.0	-609.7 -609.7	0.00 0.00	0.00 0.00	0.00 0.00
8,200.0	0.00	0.00	8,169.0	610.0	-70.0	-609.7	0.00	0.00	0.00
8,300.0	0.00	0.00	8,269.0	610.0	-70.0	-609.7	0.00	0.00	0.00
8,400.0	0.00	0.00	8,369.0	610.0	-70.0	-609.7	0.00	0.00	0.00
8,500.0 8,600.0	0.00 0.00	0.00 0.00	8,469.0 8,569.0	610.0 610.0	-70.0 -70.0	-609.7 -609.7	0.00 0.00	0.00 0.00	0.00 0.00
8,700.0 8,800.0	0.00 0.00	0.00 0.00	8,669.0 8,769.0	610.0 610.0	-70.0 -70.0	-609.7 -609.7	0.00 0.00	0.00 0.00	0.00 0.00
8,800.0 8,900.0	0.00	0.00	8,869.0	610.0	-70.0	-609.7	0.00	0.00	0.00
8,900.0 9,000.0	0.00	0.00	8,969.0 8,969.0	610.0	-70.0	-609.7	0.00	0.00	0.00
9,000.0 9,100.0	0.00	0.00	9,069.0	610.0	-70.0	-609.7	0.00	0.00	0.00
9,200.0	0.00	0.00	9,169.0	610.0	-70.0	-609.7	0.00	0.00	0.00
9,200.0	0.00	0.00	9,269.0	610.0	-70.0	-609.7	0.00	0.00	0.00
9,400.0	0.00	0.00	9,369.0	610.0	-70.0	-609.7	0.00	0.00	0.00
9,500.0	0.00	0.00	9,469.0	610.0	-70.0	-609.7	0.00	0.00	0.00
9,600.0	0.00	0.00	9,569.0	610.0	-70.0	-609.7	0.00	0.00	0.00
9,700.0	0.00	0.00	9,669.0	610.0	-70.0	-609.7	0.00	0.00	0.00
9,800.0	0.00	0.00	9,769.0	610.0	-70.0	-609.7	0.00	0.00	0.00
9,900.0	0.00	0.00	9,869.0	610.0	-70.0	-609.7	0.00	0.00	0.00
10,000.0	0.00	0.00	9,969.0	610.0	-70.0	-609.7	0.00	0.00	0.00
10,100.0	0.00	0.00	10,069.0	610.0	-70.0	-609.7	0.00	0.00	0.00
10,200.0	0.00	0.00	10,169.0	610.0	-70.0	-609.7	0.00	0.00	0.00
10,300.0	0.00	0.00	10,269.0	610.0	-70.0	-609.7	0.00	0.00	0.00
10,400.0	0.00	0.00	10,369.0	610.0	-70.0	-609.7	0.00	0.00	0.00

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Planning Report

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
10,500.0	0.00	0.00	10,469.0	610.0	-70.0	-609.7	0.00	0.00	0.00
10,600.0	0.00	0.00	10,569.0	610.0	-70.0	-609.7	0.00	0.00	0.00
10,700.0	0.00	0.00	10,669.0	610.0	-70.0	-609.7	0.00	0.00	0.00
10,800.0	0.00	0.00	10,769.0	610.0	-70.0	-609.7	0.00	0.00	0.00
10,900.0	0.00	0.00	10,869.0	610.0	-70.0	-609.7	0.00	0.00	0.00
11,000.0	0.00	0.00	10,969.0	610.0	-70.0	-609.7	0.00	0.00	0.00
11,100.0	0.00	0.00	11,069.0	610.0	-70.0	-609.7	0.00	0.00	0.00
11,200.0	0.00	0.00	11,169.0	610.0	-70.0	-609.7	0.00	0.00	0.00
11,300.0	0.00	0.00	11,269.0	610.0	-70.0	-609.7	0.00	0.00	0.00
11,400.0	0.00	0.00	11,369.0	610.0	-70.0	-609.7	0.00	0.00	0.00
11,500.0	0.00	0.00	11,469.0	610.0	-70.0	-609.7	0.00	0.00	0.00
11,600.0	0.00	0.00	11,569.0	610.0	-70.0	-609.7	0.00	0.00	0.00
11,000.0	0.00	0.00	11,509.0	010.0	-70.0	-009.7		0.00	
11,700.0	0.00	0.00	11,669.0	610.0	-70.0	-609.7	0.00	0.00	0.00
11,800.0	0.00	0.00	11,769.0	610.0	-70.0	-609.7	0.00	0.00	0.00
11,900.0	0.00	0.00	11,869.0	610.0	-70.0	-609.7	0.00	0.00	0.00
12,000.0	0.00	0.00	11,969.0	610.0	-70.0	-609.7	0.00	0.00	0.00
12,063.5	0.00	0.00	12,032.5	610.0	-70.0	-609.7	0.00	0.00	0.00
12,075.0	1.38	180.00	12,044.0	609.9	-70.0	-609.6	12.00	12.00	0.00
12,100.0	4.38	180.00	12,068.9	608.6	-70.0	-608.3	12.00	12.00	0.00
12,125.0	7.38	180.00	12,000.9	606.0	-70.0	-605.8	12.00	12.00	0.00
12,120.0	10.38	180.00	12,095.6	602.2	-70.0	-601.9	12.00	12.00	0.00
12,175.0	13.38	180.00	12,113.0	597.0	-70.0	-596.8	12.00	12.00	0.00
12,175.0	15.50	100.00					12.00		
12,200.0	16.38	180.00	12,167.1	590.6	-70.0	-590.4	12.00	12.00	0.00
12,225.0	19.38	180.00	12,190.9	583.0	-70.0	-582.7	12.00	12.00	0.00
12,250.0	22.38	180.00	12,214.3	574.0	-70.0	-573.8	12.00	12.00	0.00
12,275.0	25.38	180.00	12,237.1	563.9	-70.0	-563.6	12.00	12.00	0.00
12,284.0	26.46	180.00	12,245.2	560.0	-70.0	-559.7	12.00	12.00	0.00
12,300.0	28.38	179.98	12,259.4	552.6	-70.0	-552.3	12.00	12.00	-0.09
12,325.0	31.38	179.96	12,281.1	540.2	-70.0	-539.9	12.00	12.00	-0.03
12,350.0	34.38	179.95	12,302.1	526.6	-70.0	-526.3	12.00	12.00	-0.00
12,375.0	37.38	179.93	12,322.3	511.9	-70.0	-520.5	12.00	12.00	-0.06
12,400.0	40.38	179.92	12,341.8	496.3	-69.9	-496.0	12.00	12.00	-0.05
12,425.0	43.38	179.91	12,360.4	479.6	-69.9	-479.3	12.00	12.00	-0.04
12,450.0	46.38	179.90	12,378.1	461.9	-69.9	-461.7	12.00	12.00	-0.04
12,475.0	49.38	179.89	12,394.9	443.4	-69.9	-443.1	12.00	12.00	-0.04
12,500.0	52.38	179.88	12,410.7	424.0	-69.8	-423.7	12.00	12.00	-0.03
12,525.0	55.38	179.87	12,425.4	403.8	-69.8	-403.5	12.00	12.00	-0.03
12,550.0	58.38	179.87	12,439.1	382.9	-69.7	-382.6	12.00	12.00	-0.03
12,575.0	61.38	179.86	12,451.6	361.3	-69.7	-361.0	12.00	12.00	-0.03
12,600.0	64.38	179.85	12,463.0	339.0	-69.6	-338.7	12.00	12.00	-0.03
12,625.0	67.38	179.85	12,473.2	316.2	-69.6	-315.9	12.00	12.00	-0.02
12,650.0	70.38	179.84	12,482.2	292.9	-69.5	-292.6	12.00	12.00	-0.02
12,675.0	73.38	179.84	12,490.0	269.1	-69.4	-268.8	12.00	12.00	-0.02
12,700.0	76.38	179.83	12,496.5	245.0	-69.4	-244.7	12.00	12.00	-0.02
12,725.0	79.38	179.83	12,501.8	220.5	-69.3	-220.3	12.00	12.00	-0.02
12,750.0	82.38	179.82	12,505.7	195.9	-69.2	-195.6	12.00	12.00	-0.02
12,775.0	85.38	179.82	12,508.4	171.0	-69.1	-170.7	12.00	12.00	-0.02
12,800.0	88.38	179.81	12,509.8	146.0	-69.1	-145.8	12.00	12.00	-0.02
12,813.5	90.00	179.81	12,509.9	132.6	-69.0	-132.3	12.00	12.00	-0.02
12,900.0	90.00	179.81	12,509.9	46.0	-68.7	-45.8	0.00	0.00	0.00
13,000.0	90.00	179.81	12,509.9	-54.0	-68.4	54.2	0.00	0.00	0.00
13,100.0	90.00	179.81	12,510.0	-154.0	-68.1	154.2	0.00	0.00	0.00
13,200.0	90.00	179.81	12,510.0	-254.0	-67.7	254.2	0.00	0.00	0.00
13,300.0	90.00	179.81	12,510.0	-354.0	-67.4	354.2	0.00	0.00	0.00

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Database:	PEDM	Local Co-ordinate Reference:	Well #729H
Company:	Midland	TVD Reference:	kb = 26' @ 3514.0usft
Project:	Lea County, NM (NAD 83 NME)	MD Reference:	kb = 26' @ 3514.0usft
Site:	Ruthless 11 Fed Com	North Reference:	Grid
Well:	#729H	Survey Calculation Method:	Minimum Curvature
Wellbore:	ОН		
Design:	Plan #0.2		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
13,400.0	90.00	179.81	12,510.0	-453.9	-67.1	454.2	0.00	0.00	0.00
13,500.0	90.00	179.81	12,510.0	-553.9	-66.7	554.2	0.00	0.00	0.00
13,600.0	90.00	179.81	12,510.0	-653.9	-66.4	654.2	0.00	0.00	0.00
13,700.0	90.00	179.81	12,510.0	-753.9	-66.1	754.2	0.00	0.00	0.00
13,800.0	90.00	179.81	12,510.0	-853.9	-65.7	854.2	0.00	0.00	0.00
13,900.0	90.00	179.81	12,510.0	-953.9	-65.4	954.2	0.00	0.00	0.00
14,000.0	90.00	179.81	12,510.0	-1,053.9	-65.1	1,054.2	0.00	0.00	0.00
14,100.0	90.00	179.81	12,510.0	-1,153.9	-64.7	1,154.2	0.00	0.00	0.00
14,200.0	90.00	179.81	12,510.0	-1,253.9	-64.4	1,254.2	0.00	0.00	0.00
14,300.0	90.00	179.81	12,510.0	-1,353.9	-64.1	1,354.2	0.00	0.00	0.00
14,400.0	90.00	179.81	12,510.0	-1,453.9	-63.7	1,454.2	0.00	0.00	0.00
14,500.0	90.00	179.81	12,510.0	-1,553.9	-63.4	1,554.2	0.00	0.00	0.00
14,600.0	90.00	179.81	12,510.0	-1,653.9	-63.1	1,654.2	0.00	0.00	0.00
14,700.0	90.00	179.81	12,510.0	-1,753.9	-62.7	1,754.2	0.00	0.00	0.00
14,800.0	90.00	179.81	12,510.0	-1,853.9	-62.4	1,854.2	0.00	0.00	0.00
14,900.0	90.00	179.81	12,510.0	-1,953.9	-62.1	1,954.2	0.00	0.00	0.00
14,924.1	90.00	179.81	12,510.0	-1,978.0	-62.0	1,978.2	0.00	0.00	0.00
15,000.0	90.00	179.81	12,510.0	-2,053.9	-61.7	2,054.2	0.00	0.00	0.00
15,100.0	90.00	179.81	12,510.0	-2,153.9	-61.4	2,154.2	0.00	0.00	0.00
15,200.0	90.00	179.81	12,510.0	-2,253.9	-61.1	2,254.2	0.00	0.00	0.00
15,300.0	90.00	179.81	12,510.0	-2,353.9	-60.8	2,354.2	0.00	0.00	0.00
15,400.0	90.00	179.81	12,510.0	-2,453.9	-60.4	2,454.2	0.00	0.00	0.00
15,500.0	90.00	179.81	12,510.0	-2,553.9	-60.1	2,554.2	0.00	0.00	0.00
15,600.0	90.00	179.81	12,510.0	-2,653.9	-59.8	2,654.1	0.00	0.00	0.00
15,700.0	90.00	179.81	12,510.0	-2,753.9	-59.5	2,754.1	0.00	0.00	0.00
15,800.0	90.00	179.82	12,510.0	-2,853.9	-59.1	2,854.1	0.00	0.00	0.00
15,900.0	90.00	179.82	12,510.0	-2,953.9	-58.8	2,954.1	0.00	0.00	0.00
16,000.0	90.00	179.82	12,510.0	-3,053.9	-58.5	3,054.1	0.00	0.00	0.00
16,100.0	90.00	179.82	12,510.0	-3,153.9	-58.2	3,154.1	0.00	0.00	0.00
16,200.0	90.00	179.82	12,510.0	-3,253.9	-57.8	3,254.1	0.00	0.00	0.00
16,300.0	90.00	179.82	12,510.0	-3,353.9	-57.5	3,354.1	0.00	0.00	0.00
16,400.0	90.00	179.82	12,510.0	-3,453.9	-57.2	3,454.1	0.00	0.00	0.00
16,500.0	90.00	179.82	12,510.0	-3,553.9	-56.9	3,554.1	0.00	0.00	0.00
16,600.0	90.00	179.82	12,510.0	-3,653.9	-56.6	3,654.1	0.00	0.00	0.00
16,700.0	90.00	179.82	12,510.0	-3,753.9	-56.3	3,754.1	0.00	0.00	0.00
16,800.0	90.00	179.82	12,510.0	-3,853.9	-56.0	3,854.1	0.00	0.00	0.00
16,900.0	90.00	179.82	12,510.0	-3,953.9	-55.6	3,954.1	0.00	0.00	0.00
17,000.0	90.00	179.82	12,510.0	-4,053.9	-55.3	4,054.1	0.00	0.00	0.00
17,100.0	90.00	179.82	12,510.0	-4,153.9	-55.0	4,154.1	0.00	0.00	0.00
17,200.0	90.00	179.82	12,510.0	-4,253.9	-54.7	4,254.1	0.00	0.00	0.00
17,300.0	90.00	179.82	12,510.0	-4,353.9	-54.4	4,354.1	0.00	0.00	0.00
17,400.0	90.00	179.83	12,510.0	-4,453.9	-54.1	4,454.1	0.00	0.00	0.00
17,500.0	90.00	179.83	12,510.0	-4,553.9	-53.8	4,554.1	0.00	0.00	0.00
17,600.0	90.00	179.83	12,510.0	-4,653.9	-53.5	4,654.1	0.00	0.00	0.00
17,600.0	90.00 90.00	179.83	12,510.0			4,654.1 4,754.1	0.00	0.00	0.00
17,700.0		179.83	12,510.0	-4,753.9	-53.2		0.00		0.00
17,800.0	90.00	179.83	12,510.0	-4,853.9 -4,953.9	-52.9	4,854.1 4,954.1		0.00	
	90.00				-52.6		0.00	0.00	0.00
18,000.0	90.00	179.83	12,510.0	-5,053.9	-52.3	5,054.1	0.00	0.00	0.00
18,100.0	90.00	179.83	12,510.0	-5,153.9	-52.0	5,154.1	0.00	0.00	0.00
18,200.0	90.00	179.83	12,510.0	-5,253.9	-51.7	5,254.1	0.00	0.00	0.00
18,300.0	90.00	179.83	12,510.0	-5,353.9	-51.4	5,354.1	0.00	0.00	0.00
18,400.0	90.00	179.83	12,510.0	-5,453.9	-51.1	5,454.1	0.00	0.00	0.00
18,500.0	90.00	179.83	12,510.0	-5,553.9	-50.8	5,554.1	0.00	0.00	0.00
			-						

3/7/2023 2:25:43PM

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Planning Report

D	PEDM		M-II #70011
Database:	PEDM	Local Co-ordinate Reference:	Well #729H
Company:	Midland	TVD Reference:	kb = 26' @ 3514.0usft
Project:	Lea County, NM (NAD 83 NME)	MD Reference:	kb = 26' @ 3514.0usft
Site:	Ruthless 11 Fed Com	North Reference:	Grid
Well:	#729H	Survey Calculation Method:	Minimum Curvature
Wellbore:	ОН		
Design:	Plan #0.2		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
18,700.0	90.00	179.83	12,510.0	-5,753.9	-50.2	5,754.1	0.00	0.00	0.00
18,800.0	90.00	179.83	12,510.0	-5,853.9	-50.0	5,854.1	0.00	0.00	0.00
18,900.0	90.00	179.84	12,510.0	-5,953.9	-49.7	5,954.1	0.00	0.00	0.00
19,000.0	90.00	179.84	12,510.0	-6,053.9	-49.4	6,054.1	0.00	0.00	0.00
19,100.0	90.00	179.84	12,510.0	-6,153.9	-49.1	6,154.1	0.00	0.00	0.00
19,200.0	90.00	179.84	12,510.0	-6,253.9	-48.8	6,254.1	0.00	0.00	0.00
19,300.0	90.00	179.84	12,510.0	-6,353.9	-48.5	6,354.1	0.00	0.00	0.00
19,400.0	90.00	179.84	12,510.0	-6,453.9	-48.2	6,454.1	0.00	0.00	0.00
19,500.0	90.00	179.84	12,510.0	-6,553.9	-48.0	6,554.1	0.00	0.00	0.00
19,600.0	90.00	179.84	12,510.0	-6,653.9	-47.7	6,654.1	0.00	0.00	0.00
19,700.0	90.00	179.84	12,510.0	-6,753.9	-47.4	6,754.1	0.00	0.00	0.00
19,800.0	90.00	179.84	12,510.0	-6,853.9	-47.1	6,854.0	0.00	0.00	0.00
19,900.0	90.00	179.84	12,510.0	-6,953.9	-46.8	6,954.0	0.00	0.00	0.00
20,000.0	90.00	179.84	12,510.0	-7,053.9	-46.6	7,054.0	0.00	0.00	0.00
20,100.0	90.00	179.84	12,510.0	-7,153.9	-46.3	7,154.0	0.00	0.00	0.00
20,207.1	90.00	179.84	12,510.0	-7,261.0	-46.0	7,261.1	0.00	0.00	0.00
20,300.0	90.00	179.84	12,510.0	-7,353.9	-45.7	7,354.0	0.00	0.00	0.00
20,400.0	90.00	179.84	12,510.0	-7,453.9	-45.5	7,454.0	0.00	0.00	0.00
20,500.0	90.00	179.84	12,510.0	-7,553.9	-45.2	7,554.0	0.00	0.00	0.00
20,600.0	90.00	179.84	12,510.0	-7,653.9	-44.9	7,654.0	0.00	0.00	0.00
20,700.0	90.00	179.83	12,510.0	-7,753.9	-44.6	7,754.0	0.00	0.00	0.00
20,800.0	90.00	179.83	12,510.0	-7,853.9	-44.3	7,854.0	0.00	0.00	0.00
20,900.0	90.00	179.83	12,510.0	-7,953.9	-44.0	7,954.0	0.00	0.00	0.00
21,000.0	90.00	179.83	12,510.0	-8,053.9	-43.7	8,054.0	0.00	0.00	0.00
21,100.0	90.00	179.83	12,510.0	-8,153.9	-43.4	8,154.0	0.00	0.00	0.00
21,200.0	90.00	179.82	12,510.0	-8,253.9	-43.1	8,254.0	0.00	0.00	0.00
21,200.0	90.00	179.82	12,510.0	-8,353.9	-42.8	8,354.0	0.00	0.00	0.00
21,400.0	90.00	179.82	12,510.0	-8,453.9	-42.5	8,454.0	0.00	0.00	0.00
21,500.0	90.00	179.82	12,510.0	-8,553.9	-42.2	8,554.0	0.00	0.00	0.00
21,600.0	90.00	179.82	12,510.0	-8,653.9	-41.9	8,654.0	0.00	0.00	0.00
21,700.0	90.00	179.82	12,510.0	-8,753.9	-41.6	8,754.0	0.00	0.00	0.00
21,800.0	90.00	179.81	12,510.0	-8,853.9	-41.2	8,854.0	0.00	0.00	0.00
21,900.0	90.00	179.81	12,510.0	-8,953.9	-40.9	8,954.0	0.00	0.00	0.00
22,000.0	90.00	179.81	12,510.0	-9,053.9	-40.6	9,054.0	0.00	0.00	0.00
22,100.0	90.00	179.81	12,510.0	-9,153.9	-40.2	9,154.0	0.00	0.00	0.00
22,200.0	90.00	179.81	12,510.0	-9,253.9	-39.9	9,254.0	0.00	0.00	0.00
22,200.0	90.00	179.80	12,510.0	-9,353.9	-39.6	9,354.0	0.00	0.00	0.00
22,400.0	90.00	179.80	12,510.0	-9,453.9	-39.2	9,454.0	0.00	0.00	0.00
22,500.0	90.00	179.80	12,510.0	-9,553.9	-38.9	9,554.0	0.00	0.00	0.00
22,600.0	90.00	179.80	12,510.0	-9,653.9	-38.5	9,654.0	0.00	0.00	0.00
22,000.0	90.00	179.80	12,510.0	-9,753.9	-38.2	9,054.0 9,754.0	0.00	0.00	0.00
22,700.0	90.00	179.80	12,510.0	-9,800.0	-38.0	9,754.0	0.00	0.00	0.00



Planning Report

Database: Company: Project: Site: Well: Wellbore: Design:	PEDM Midland Lea County, Ruthless 11 #729H OH Plan #0.2	NM (NAD 83 Fed Com	NME)		TVD Refere MD Referen North Refer	ce:	kb = 26' (Grid	9H @ 3514.0usft @ 3514.0usft Curvature	
Design Targets									
Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
KOP(Ruthless 11 Fed 0 - plan hits target ce - Point		0.00	12,032.5	610.0	-70.0	419,752.00	752,005.00	32° 9' 7.725 N	103° 39' 9.414 W
FTP(Ruthless 11 Fed C - plan hits target ce - Point		0.00	12,245.2	560.0	-70.0	419,702.00	752,005.00	32° 9' 7.230 N	103° 39' 9.418 W
Fed Perf 2(Ruthless 11 - plan hits target ce - Point		0.00	12,510.0	-7,261.0	-46.0	411,881.00	752,029.00	32° 7' 49.836 N	103° 39' 9.714 W
Fed Perf 1(Ruthless 11 - plan hits target ce - Point		0.00	12,510.0	-1,978.0	-62.0	417,164.00	752,013.00	32° 8' 42.115 N	103° 39' 9.512 W
PBHL(Ruthless 11 Fed - plan hits target ce - Point		0.01	12,510.0	-9,800.0	-38.0	409,342.00	752,037.00	32° 7' 24.711 N	103° 39' 9.807 W

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179.80

12510.0

12510.0

12510.0

-1978.0

-7261.0

-9800.0

-62.0

-46.0

-38.0

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0.00

84.74

-93.73

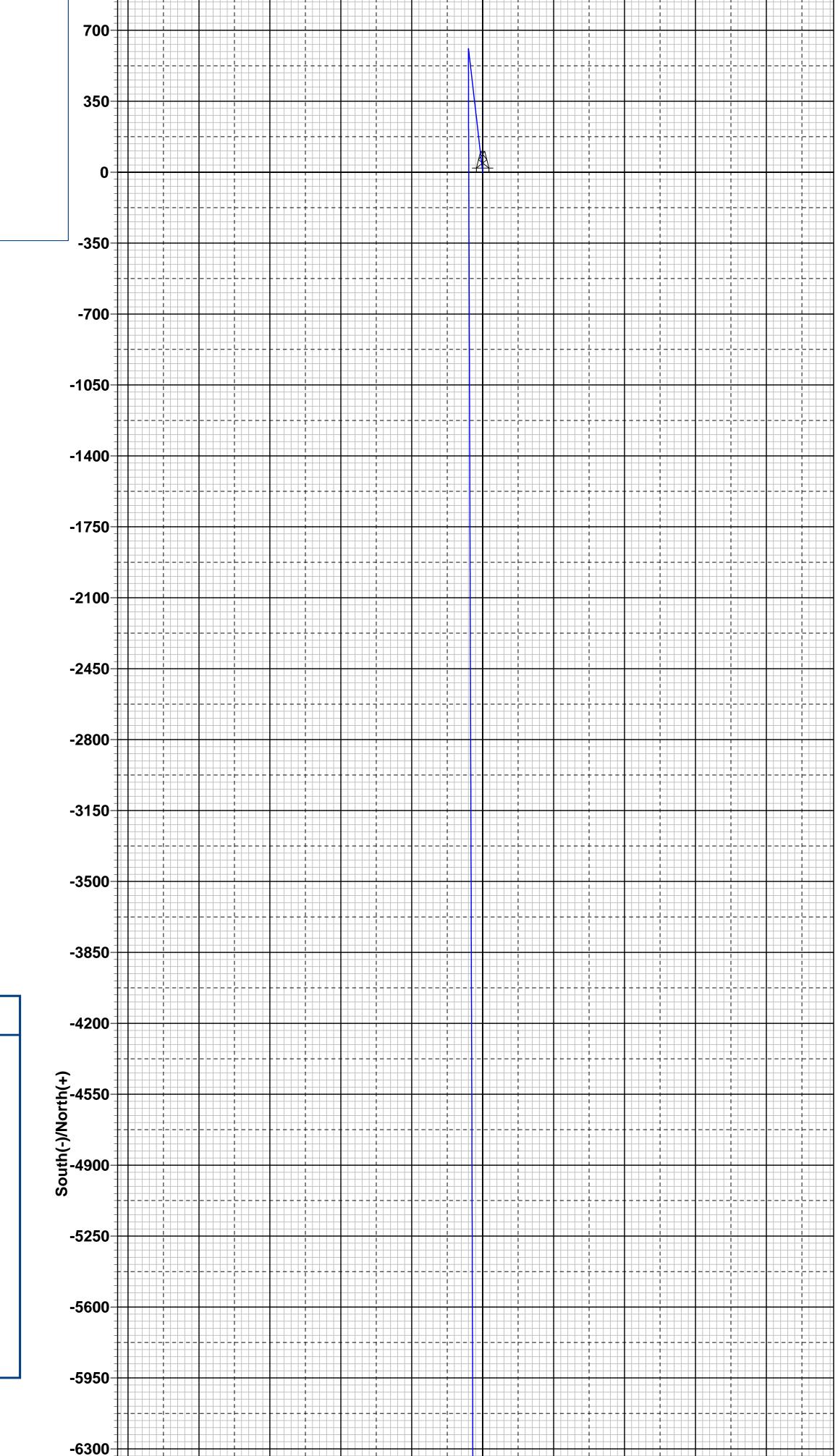
1978.2

7261.1

9800.1

Lea County, NM (NAD 83 NME) -700 -1750 -1400 **Ruthless 11 Fed Com** #729H 700-350-Plan #0.2 -350 ┝┝┝┝ -700-PROJECT DETAILS: Lea County, NM (NAD 83 NME)

Geodetic System: US State Plane 1983 Datum: North American Datum 1983 Ellipsoid: GRS 1980 Zone: New Mexico Eastern Zone System Datum: Mean Sea Level



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Ruthless-11-Fed-Com/#729H/Plan-#0.2

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West(-)/East(+)

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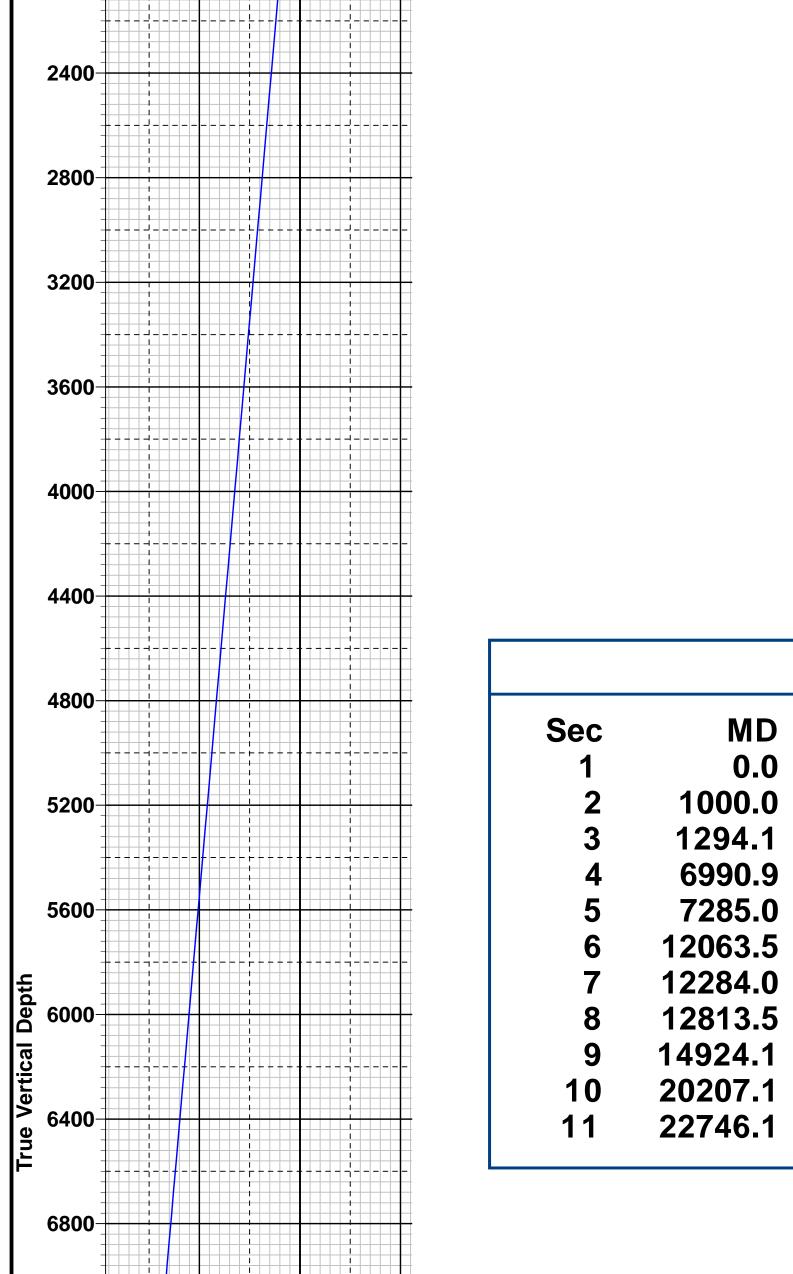
1050

1400

-350



To convert a Magnetic Direction to a Grid Direction, Add 6.13° To convert a Magnetic Direction to a True Direction, Add 6.49° East To convert a True Direction to a Grid Direction, Subtract 0.36°



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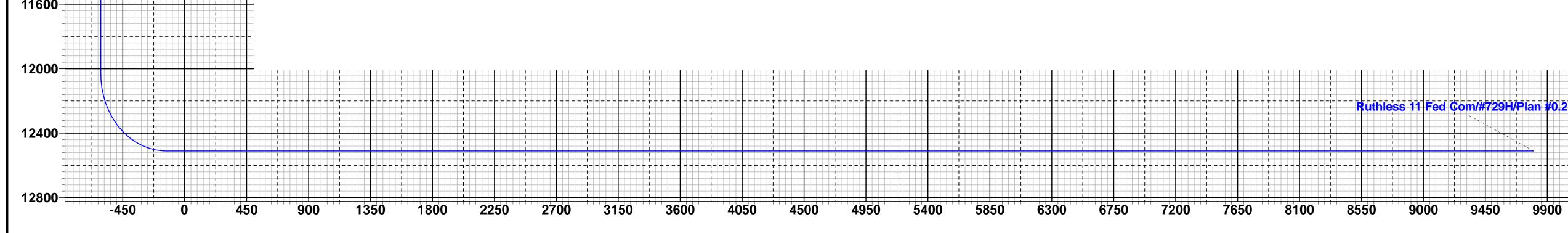
10800-

11200

				WELL	DETAILS: #	729H		
						3488.0		_
		Nort 4191	hing 42.00	Eas	kb = 26' @ 3 sting 75.00	514.0usit Latittude 32° 9' 1.684 N	Longitude 103° 39' 8.645 W	
				SECTION	DETAILS			
Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Target	
0.00	0.0	0.0	0.0	0.00	0.00	0 0		
0.00						0.0		
0.00	1000.0	0.0	0.0	0.00	0.00	0.0		
0.00 353.45	1293.6	15.0	0.0 -1.7	0.00 2.00	0.00 353.45			
0.00				0.00	0.00	0.0		
0.00 353.45	1293.6	15.0	-1.7	0.00 2.00	0.00 353.45	0.0 -15.0		
0.00 353.45 353.45	1293.6 6960.4	15.0 595.0	-1.7 -68.3	0.00 2.00 0.00	0.00 353.45 0.00	0.0 -15.0 -594.7	KOP(Ruthless 11	Fed Com #743H)
0.00 353.45 353.45 0.00	1293.6 6960.4 7254.0	15.0 595.0 610.0	-1.7 -68.3 -70.0	0.00 2.00 0.00 2.00	0.00 353.45 0.00 180.00	0.0 -15.0 -594.7 -609.7	KOP(Ruthless 11 FTP(Ruthless 11	

Fed Perf 1(Ruthless 11 Fed Com #743H) Fed Perf 2(Ruthless 11 Fed Com #743H) PBHL(Ruthless 11 Fed Com #743H)

CASING DETAILS	WELLBORE TA	RGET DETAILS (MAP CO-C	ORDINATES)		-6650			
No casing data is available	Name KOP(Ruthless 11 Fed Com #743H) FTP(Ruthless 11 Fed Com #743H) Fed Perf 1(Ruthless 11 Fed Com #743H)	TVD+N/-S12032.5610.012245.2560.012510.0-1978.0	+E/-W North -70.0 419752 -70.0 419702 -62.0 417164	2.00 752005.00 2.00 752005.00 4.00 752013.00	-7000			
	Fed Perf 2(Ruthless 11 Fed Com #743H) PBHL(Ruthless 11 Fed Com #743H)	12510.0 -7261.0 12510.0 -9800.0	-46.0 411881 -38.0 409342		-7350			
					-7700			
					-8050			
					-8400			
					-8750			
					-9100			
					-9450			
					· · · · ·	 	 	



Vertical Section at 180.22°

Lea County, NM (NAD 83 NME) Ruthless 11 Fed Com #729H ОН Plan #0.2 14:24, March 07 2023

Seog resources

Offline Intermediate Cementing Procedure

Cement Program

1. No changes to the cement program will take place for offline cementing.

Summarized Operational Procedure for Intermediate Casing

- 1. Run casing as per normal operations. While running casing, conduct negative pressure test and confirm integrity of the float equipment back pressure valves.
 - a. Float equipment is equipped with two back pressure valves rated to a minimum of 5,000 psi.
- 2. Land production casing on mandrel hanger through BOP.
 - a. If casing is unable to be landed with a mandrel hanger, then the **casing will be cemented online**.
- 3. Break circulation and confirm no restrictions.
 - a. Ensure no blockage of float equipment and appropriate annular returns.
 - b. Perform flow check to confirm well is static.
- 4. Set pack-off
 - a. If utilizing a fluted/ported mandrel hanger, ensure well is static on the annulus and inside the casing by filling the pipe with kill weight fluid, remove landing joint, and set annular packoff through BOP. Pressure test to 5,000 psi for 10 min.
 - b. If utilizing a solid mandrel hanger, ensure well is static on the annulus and inside the casing by filling the pipe with kill weight fluid. Pressure test seals to 5,000 psi for 10 min. Remove landing joint through BOP.
- 5. After confirmation of both annular barriers and the two casing barriers, install TA plug and pressure test to 5,000 psi for 10 min. Notify the BLM with intent to proceed with nipple down and offline cementing.
 - a. Minimum 4 hrs notice.
- 6. With the well secured and BLM notified, nipple down BOP and secure on hydraulic carrier or cradle.
 - a. Note, if any of the barriers fail to test, the BOP stack will not be nippled down until after the cement job has concluded and both lead and tail slurry have reached 500 psi.
- 7. Skid/Walk rig off current well.
- 8. Confirm well is static before removing TA Plug.
 - a. Cementing operations will not proceed until well is under control. (If well is not static, notify BLM and proceed to kill)
 - b. Casing outlet valves will provide access to both the casing ID and annulus. Rig or third party pump truck will kill well prior to cementing.
 - c. Well control plan can be seen in Section B, Well Control Procedures.
 - d. If need be, rig can be moved back over well and BOP nippled back up for any further remediation.

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2/24/2022

Seog resources

Offline Intermediate Cementing Procedure

- e. Diagram for rig positioning relative to offline cementing can be seen in Figure 4.
- 9. Rig up return lines to take returns from wellhead to pits and rig choke.
 - a. Test all connections and lines from wellhead to choke manifold to 5,000 psi high for 10 min.
 - b. If either test fails, perform corrections and retest before proceeding.
 - c. Return line schematics can be seen in Figure 3.
- 10. Remove TA Plug from the casing.
- 11. Install offline cement tool.
 - a. Current offline cement tool schematics can be seen in Figure 1 (Cameron) and Figure 2 (Cactus).
- 12. Rig up cement head and cementing lines.
 - a. Pressure test cement lines against cement head to 80% of casing burst for 10 min.
- 13. Break circulation on well to confirm no restrictions.
 - a. If gas is present on circulation, well will be shut in and returns rerouted through gas buster.
 - b. Max anticipated time before circulating with cement truck is 6 hrs.
- 14. Pump cement job as per plan.
 - a. At plug bump, test casing to 0.22 psi/ft or 1500 psi, whichever is greater.
 - b. If plug does not bump on calculated, shut down and wait 8 hrs or 500 psi compressive strength, whichever is greater before testing casing.
- 15. Confirm well is static and floats are holding after cement job.
 - a. With floats holding and backside static:
 - i. Remove cement head.
 - b. If floats are leaking:
 - i. Shut-in well and WOC (Wait on Cement) until tail slurry reaches 500 psi compressive strength and the casing is static prior to removing cement head.
 - c. If there is flow on the backside:
 - i. Shut in well and WOC until tail slurry reaches 500 psi compressive strength. Ensure that the casing is static prior to removing cement head.
- 16. Remove offline cement tool.
- 17. Install night cap with pressure gauge for monitoring.
- 18. Test night cap to 5,000 psi for 10 min.

Example Well Control Plan Content

A. Well Control Component Table

The table below, which covers the cementing of the <u>5M MASP (Maximum Allowable Surface Pressure) portion of the well</u>, outlines the well control component rating in use. This table, combined with the mud program, documents that two barriers to flow can be maintained at all times, independent of the BOP nippled up to the wellhead.

Intermediate hole section, 5M requirement

Component	RWP
Pack-off	10M
Casing Wellhead Valves	10M
Annular Wellhead Valves	5M
TA Plug	10M
Float Valves	5M
2" 1502 Lo-Torque Valves	15M

B. Well Control Procedures

Well control procedures are specific to the rig equipment and the operation at the time the kick occurs. Below are the minimal high-level tasks prescribed to assure a proper shut-in while circulating and cementing through the Offline Cement Adapter.

General Procedure While Circulating

- 1. Sound alarm (alert crew).
- 2. Shut down pumps.
- 3. Shut-in Well (close valves to rig pits and open valve to rig choke line. Rig choke will already be in the closed position).
- 4. Confirm shut-in.
- 5. Notify tool pusher/company representative.

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Offline Intermediate Cementing Procedure

- 6. Read and record the following:
 - a. SICP (Shut in Casing Pressure) and AP (Annular Pressure)
 - b. Pit gain
 - c. Time
 - d. Regroup and identify forward plan to continue circulating out kick via rig choke and mud/gas separator. Circulate and adjust mud density as needed to control well.

General Procedure While Cementing

- 1. Sound alarm (alert crew).
- 2. Shut down pumps.
- 3. Shut-in Well (close valves to rig pits and open valve to rig choke line. Rig choke will already be in the closed position).
- 4. Confirm shut-in.
- 5. Notify tool pusher/company representative.
- 6. Open rig choke and begin pumping again taking returns through choke manifold and mud/gas separator.
- 7. Continue to place cement until plug bumps.
- 8. At plug bump close rig choke and cement head.
- 9. Read and record the following
 - a. SICP and AP
 - b. Pit gain
 - c. Time
 - d. Shut-in annulus valves on wellhead

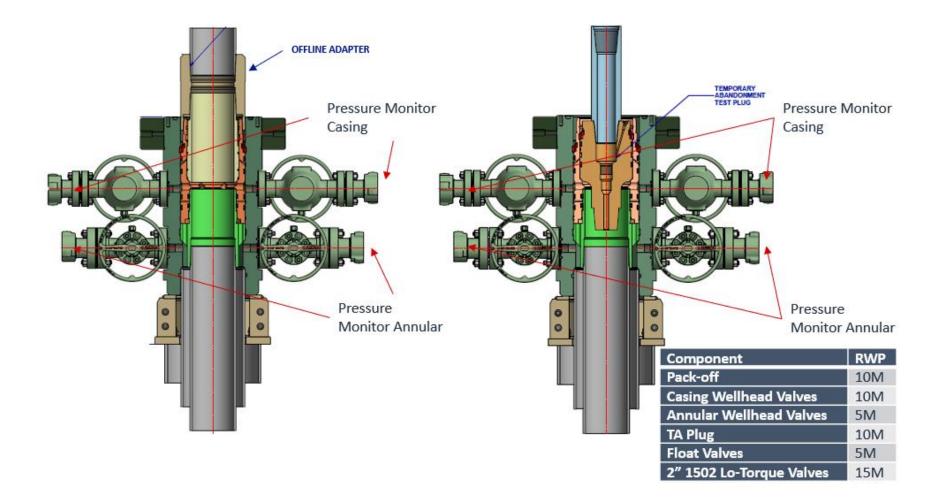
General Procedure After Cementing

- 1. Sound alarm (alert crew).
- 2. Shut-in Well (close valves to rig pits and open valve to rig choke line. Rig choke will already be in the closed position).
- 3. Confirm shut-in.
- 4. Notify tool pusher/company representative.
- 5. Read and record the following:
 - a. SICP and AP
 - b. Pit gain
 - c. Time
 - d. Shut-in annulus valves on wellhead

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Figure 1: Cameron TA Plug and Offline Adapter Schematic

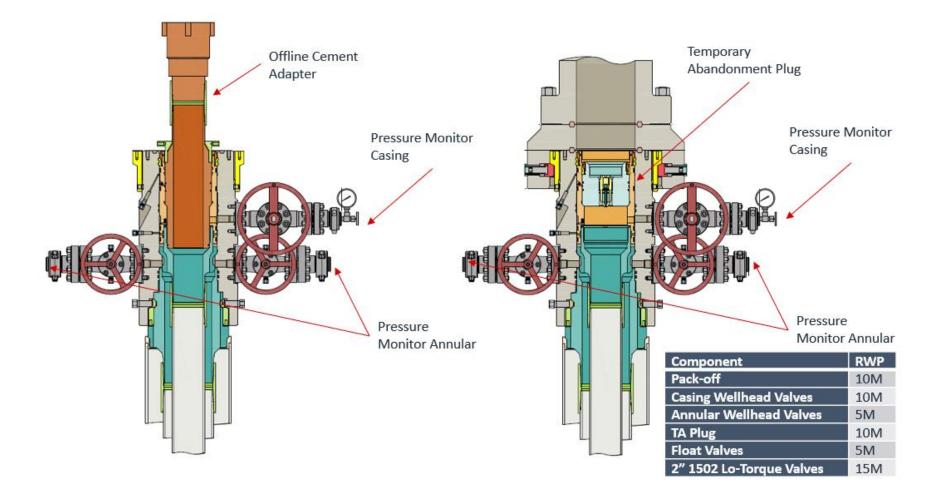


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Offline Intermediate Cementing Procedure





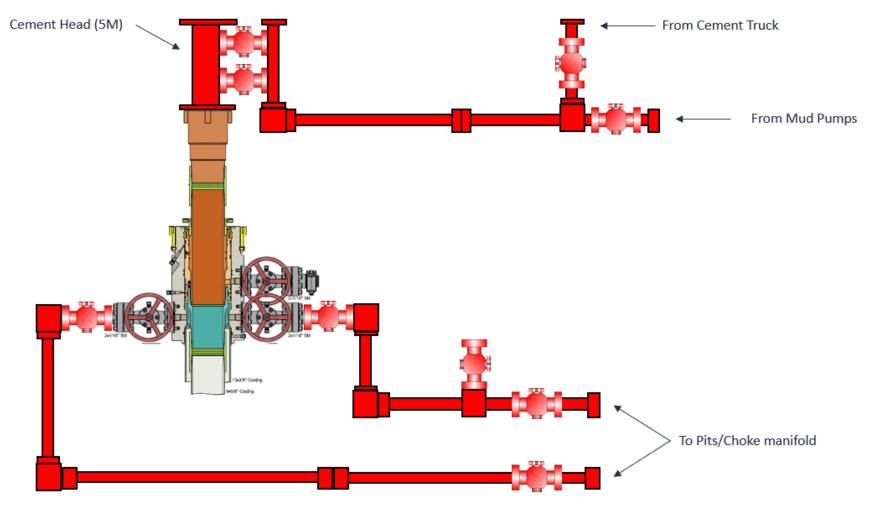
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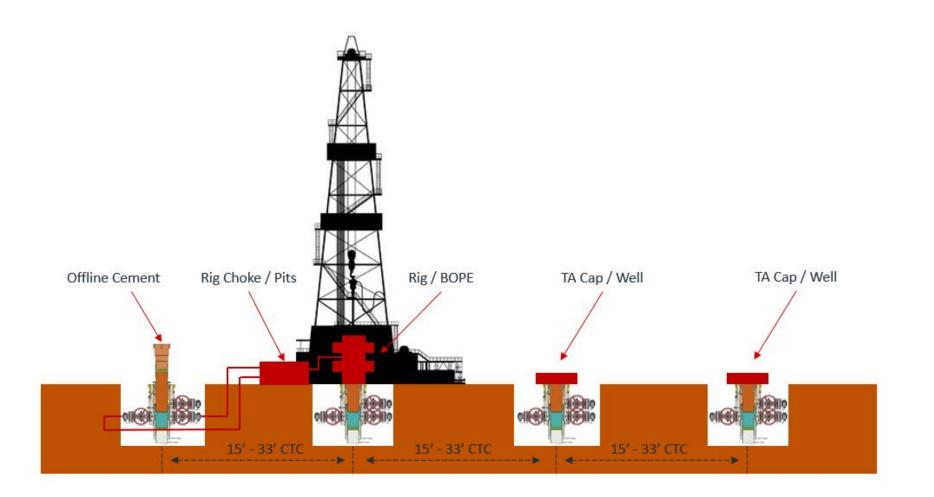


*** All Lines 10M rated working pressure

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CONDITIONS

Operator:	OGRID:
EOG RESOURCES INC	7377
P.O. Box 2267	Action Number:
Midland, TX 79702	202323
	Action Type:
	[C-103] NOI Change of Plans (C-103A)
	[C-103] NOI Change of Plans (C-103A)

CONDITIONS

Created By		Condition Date
pkautz	None	3/30/2023

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